IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CARRIER CORP.,

Plaintiff,

v.

GOODMAN GLOBAL, INC., GOODMAN MANUFACTURING COMPANY, L.P., GOODMAN GLOBAL HOLDINGS, INC., GOODMAN DISTRIBUTION, INC., and GOODMAN SALES COMPANY,

Defendants.

C.A. No. 12-930-SLR

REDACTED
PUBLIC VERSION

UNDER SEAL EXHIBITS TO THE DECLARATION OF PAUL R. MORICO IN SUPPORT OF GOODMAN'S ANSWERING BRIEF IN OPPOSITION TO PLAINTIFF'S MOTION FOR A PERMANENT INJUNCTION

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Dated: November 12, 2014

CERTIFICATE OF SERVICE

I hereby certify that on November 12, 2014, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF, which will send notification of such filing to registered participants, and further certify that I caused copies of the foregoing document to be served upon the following via electronic mail:

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EXHIBITS 1-7, 10, 12-13 & 16-17

REDACTED IN THEIR ENTIRETY

EXHIBIT 18

CONFIDENTIAL - DAVID S. MEYERS

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

CARRIER CORPORATION,

Plaintiff,

vs.

GOODMAN GLOBAL, INC., GOODMAN MANUFACTURING COMPANY, L.P., GOODMAN GLOBAL HOLDINGS, INC., GOODMAN DISTRIBUTION, INC., and GOODMAN SALES COMPANY,

Defendants,

vs.

GOODMAN MANUFACTURING COMPANY, L.P. and GOODMAN DISTRIBUTION, INC.,

Counterclaim Plaintiffs,

vs.

CARRIER CORPORATION,

Counterclaim Defendant. /

VIDEOTAPE DEPOSITION OF DAVID S. MEYERS

WASHINGTON, D.C.

Thursday, August 29, 2013

JOB NO. 64662

REPORTED BY: Kathy Savich, RPR, CLR

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the residential -- for the residential market --

MR. FJELLSTEDT: Objection. Form.

BY MR. MORICO:

Q. -- than those that we've just discussed?

A. No, not that -- I mean, my understanding of the question, no, not that I'm aware of.

Q. All right. The Carrier Enterprise and Sigler, do they have exclusive distribution rights in the regions they're permitted to sell or area -- strike that.

Carrier Enterprise and Sigler, do they have exclusive distribution rights for Carrier residential HVAC units in the regions they're permitted to sell?

A. Yes, they do.

Q. So does that mean independent distributors are not permitted to sell in those regions?

A. They cannot.

But I will add, all of our

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distributors are treated equally and all have exclusivity to Carrier brands in their respective territories.

Q. I see. So each distributor has an exclusive relationship with Carrier in that they can only sell Carrier products; is that true?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: Will you ask the question again.

BY MR. MORICO:

Q. Yes. Each distributor has an exclusive relationship with Carrier for their region that permits them to sell only Carrier products; is that true?

MR. FJELLSTEDT: Same objection.

THE WITNESS: How do you define "products"?

BY MR. MORICO:

Q. Residential HVAC units or systems.

A. All distributors sell a multitude of products and brands that include

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units, accessories, parts, supplies.

Q. Let me ask you a different question. Your distributors, are they permitted to sell your competitors' products?

A. It depends on the product.

Q. How about for residential HVAC units?

A. What type of units?

Q. Any type of unit.

MR. FJELLSTEDT: Objection. Form.

BY MR. MORICO:

Q. Let me come at this another way. Earlier you said that all of Carrier's distributors, whether they're independent or they're with Carrier Enterprise or Sigler, have an exclusive arrangement. Is one aspect of that exclusive arrangement that for their territories no one else will sell Carrier residential HVAC products?

A. Yes.

Q. But the exclusivity doesn't necessarily work the other way in the sense that they're only permitted to sell

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Carrier-branded HVAC products; is that also true?

A. Can you ask that -- I don't understand the question.

Q. All right. So the exclusivity works at least one way in the sense that Carrier distributors don't have to worry about competing with other distributors for the regions for which they have exclusivity, at least with respect to selling Carrier residential HVAC units, correct?

A. That is correct.

Q. All right. And earlier we were talking about some of those distributors have certain rights to sell competitive residential HVAC products, correct?

A. That's not true.

Q. Okay. So all of the Carrier distributors -- none -- strike that.

Is it true that none of the Carrier distributors are permitted to sell your competitors' products? And by "competitors," I'm referring to residential HVAC systems or accessories.

A. That is true that they cannot sell a competitor's unit.
Q. Does Carrier have any relationships with any retail companies, such as Sears, currently to sell residential HVAC systems?
A. We do.
Q. Can you identify for me who those retail companies are.
A. Sears.
Q. Anybody else?
A. Not that I'm aware of.
Q. So if I were to go to Home Depot or Lowe's, I couldn't buy a Carrier air-conditioning unit?
A. We do not have a relationship with Lowe's or Home Depot, so no.
Q. All right. Would your distributors be able to sell to them, to the end user market?
A. They could.
Q. So if I were to go to a Lowe's and there was a Carrier unit for sale, that would have come through one of your

distributors, not directly from Carrier?
A. Correct.
Q. I see. Okay.
Other than the chart you've drawn --
MR. MORICO: And I guess, actually, why don't we mark that as Exhibit 2. Go ahead and do that.
(MEYERS EXHIBIT NO. 2 WAS MARKED FOR IDENTIFICATION.)
BY MR. MORICO:
Q. Other than the chart that we've drawn and the Carrier Enterprise and Sigler entities that we've talked about, are there any other Carrier entities, Carrier-owned entities or entities that Carrier has some ownership interest which are involved in the manufacture or sale of residential HVAC units?
MR. FJELLSTEDT: Objection. Form.
THE WITNESS: Not that I'm aware of.
BY MR. MORICO:

Q. Topic 24 talks about the basis for Carrier's decision to sue Goodman alleging infringement of the patents-in-suit. Did you have any involvement in the decision to sue Goodman for patent infringement?
A. Me personally, no.
Q. Can you tell me what individuals within the Carrier organization were involved in that decision?
MR. FJELLSTEDT: I would object to the extent that that question is calling for any privileged information if there's anything you've learned from discussions with counsel, in particular, and any communications you had with counsel regarding that decision.
If you can answer outside of that, go ahead.
THE WITNESS: I cannot.
BY MR. MORICO:
Q. You can't identify who was involved in the decision?
A. I cannot. I don't know.

Q. I see. You can't answer because you don't know, not because of some privilege issue?
A. I don't know.
Q. But you weren't involved in that decision; is that fair?
A. I was not.
Q. Do you know why Goodman was a target of the lawsuit and not any of Carrier's other competitors?
MR. FJELLSTEDT: And I'd just object to the extent the question calls for any privileged information. Beyond that, you can answer.
THE WITNESS: I do not.
BY MR. MORICO:
Q. Do you know when that decision was made?
MR. FJELLSTEDT: The same objection, the same caution, but you may answer.
THE WITNESS: I do not.
BY MR. MORICO:
Q. Do you know the first time

orders. So in an effort not to disappoint our customers, we wanted to provide them at least a thermostat to use until we could keep up with demand. And once we got production bak up to demand, we would then send them a user interface that they could then replace the builder thermostat that they had to use in the interim.

Q. I see.

A. And frankly, viewed this as something that was unanticipated and perceived extremely favorably.

Q. The -- is the $75 labor reimbursement something that one gets with the Cool Cash Promotion?

A. No. This was enabled to compensate the contractor for having to go back to the home to take off the builder thermostat to put on the new interface.

Q. So these measures that are discussed here are compensation to the builder. These Items A through D have nothing to do with the Cool Cash Promotion then?

A. These have -- they do not. They have 100 percent to do with the fact that a dealer accepted this product, sold it to an end user, not a builder, and that we wanted to ensure that they were compensated for us in catching up with the demand.

Q. I see. So I must have misread this document. So the Cool Cash Promotion is something separate from items A through D?

A. Completely separate.

Q. I see. Cool Cash Promotion, though, is some sort of a promotion to the homeowner; is that right?

A. Correct.

Q. I see. Okay.

(MEYERS EXHIBIT NO. 6 WAS MARKED FOR IDENTIFICATION.)

BY MR. MORICO:

Q. I've handed you what's been marked as exhibit -- Meyers Exhibit 6, which is Exhibit D to the declaration, Exhibit 3 that we've been referring to. I take it you recognize this document?

A. I do.

Q. Did you prepare this graph?

A. I personally did not.

Q. Do you know who did?

A. Again, someone within our product marketing group.

Q. So this shows Carrier thermostat sales; is that right?

A. It does.

Q. From 2004 through 2007?

A. Yes.

Q. So this doesn't show any user interface sales; is that right?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: I believe this data is inclusive of all of our thermostat sales, which would include our user interface.

BY MR. MORICO:

Q. I see. So the sales -- I see. So this includes both the thermostats and the user interfaces for these respective years?

A. I believe the data is inclusive of our comprehensive thermostat line.

Q. So it's not just user interface, it's inclusive of the other thermostats?

A. It is -- what this is meant to demonstrate is the tangential benefit of introducing Infinity. We were not regarded as a serious thermostat player in the market until we introduced this product. And when we introduced this product, it gave us credibility with our distributor base and our dealer base that then started paying attention to our controls business. We became a legitimate competitor to Honeywell, White Rodgers, and other players in the market.

Q. And so Honeywell and White Rodgers, prior to the introduction of the Infinity, in your mind, were the leaders in the thermostat market?

A. I don't know that I would term them leaders. I would not term them leaders. I would say that there is a portion of our distributors' and our dealers' business who purchased competitive thermostats, and with

the introduction of this product they began purchasing a greater percentage of their business of our branded thermostats. That's what this chart illustrates and my comment was in reference to.

Q. Well, all this chart illustrates is they bought more of your thermostats. It doesn't necessarily mean they bought more of your thermostats relative to the rest of the industry, correct?

MR. FJELLSTEDT: Objection. Form.

BY MR. MORICO:

Q. We're talking about this chart now.

A. What I do know is the market did not triple from 2003 to 2004.

Q. That's not what I'm asking. I'm asking with respect to this. This doesn't compare -- this chart doesn't compare to the rest of the market.

MR. FJELLSTEDT: Objection.

BY MR. MORICO:

Q. Right?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: This chart compares the purchases from our customers from us which tripled. The inference --

BY MR. MORICO:

Q. How do you get it -- how does -- tripled from what period?

A. It increased from 18 percent to over 60 percent from 2003 to 2004. We sold that many more thermostats in a one-year time frame.

Q. And how many Infinity systems did you sell during that year, that time frame?

A. In which time frame?

Q. The time frame you just mentioned when there was a 60 percent increase in 2004.

A. I believe there were 2000 -- I'm sorry. Please restate your question.

Q. How many Infinity systems did

you sell in 2004?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: Systems or interfaces?

BY MR. MORICO:

Q. Interfaces.

A. I believe it was around 40,000 plus. And I thought there is something in here. In Exhibit 4, 49,249.

Q. How many indoor units did you sell in that year?

A. In 2004?

Q. Correct.

A. I don't have that data.

Q. So how many more indoor units did you sell in 2004 as compared to 2003?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: I don't have that data.

BY MR. MORICO:

Q. So this chart just shows that you sold more thermostats during that time

period, it doesn't show that you necessarily sold more Infinity-enabled systems, correct?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: Yes, we sold more thermostats.

BY MR. MORICO:

Q. And that's all this is showing, right?

A. Yes, it's showing the cumulative growth of our thermostat sales.

Q. So you didn't do an analysis of how many ComfortNet systems connecting in a communicating manner were sold in 2004, correct?

MR. FJELLSTEDT: Objection. Form.

THE WITNESS: I believe that question was answered earlier around tracking that data.

BY MR. MORICO:

Q. Not being possible, right?

MR. FJELLSTEDT: Objection. Form. And please let him finish his

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I, DAVID S. MEYERS, do hereby acknowledge I have read and examined the foregoing pages of testimony, and the same is a true, correct and complete transcription of the testimony given by me, and any changes and/or corrections, if any, appear in the attached errata sheet signed by me.

_____ _____

Date Signature

CONFIDENTIAL - DAVID S. MEYERS

REPORTER'S CERTIFICATE

I, Kathy Savich, the undersigned RPR, CLR, and Notary Public in and for the District of Columbia, do hereby certify that the above-named witness, after having been first duly sworn to testify to the truth, did testify as set forth in the foregoing pages, that the testimony was reported by me in stenotype and transcribed under my personal direction and supervision, and is a true and correct transcript.

I further certify that I am not of counsel, not related to counsel or the parties hereto, and not in any way interested in the outcome of this matter.

SUBSCRIBED AND SWORN TO under my hand.

Dated: 9/3/2013

My Commission Expires: 1/1/2017

_____

Kathy Savich, RPR, CLR
Notary Public in and for the
District of Columbia

CONFIDENTIAL - DAVID S. MEYERS

ERRATA SHEET

Case Name: CARRIER CORPORATION V GOODMAN GLOBAL, et al.
Witness Name: DAVID S. MEYERS
Date: August 29, 2013
Job No.: 64662

Page No. Line No. Change

_____ _____

Signature Date

EXHIBITS 19 & 21-24

REDACTED IN THEIR ENTIRETY

EXHIBIT 25

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

CARRIER CORPORATION,	•	Case No.
Plaintiff,	•	12-930-SLR
v.	•	
GOODMAN GLOBAL, INC., GOODMAN	•	
MANUFACTURING COMPANY, L.P.,	•	
GOODMAN GLOBAL HOLDINGS, INC.,	•	
GOODMAN DISTRIBUTION, INC.,	•	
and GOODMAN SALES COMPANY,	•	
Defendants.	•	
	•	
And Related Counterclaim	•	

H I G H L Y C O N F I D E N T I A L

VIDEOTAPED DEPOSITION OF 30(b)(6) DESIGNEE

RAJENDRA SHAH

Washington, D.C.

August 27, 2013

9:00 a.m.

JOB 64661

Reported by: Linda S. Kinkade, RDR, CRR, RMR, CSR

R. SHAH - HIGHLY CONFIDENTIAL

control, are you talking just about the board in the thermostat or are you talking about the entire thermostat unit?

A. Physically the way it was, was that the -- the assembly board, plastic display, keys, everything in the plastic frame, came in two pieces -- the second piece was mounted to the wall and wired to the system, and the one that snapped out plugged into that first piece.

Q. And so the board that was connected to the wires, is that the part that you would switch out?

A. Let me redescribe this. The one piece stayed on the wall along with the wires going to the system, and it had connections that the other piece connected to as it snapped in, and the other piece had everything -- it had the whole board, display, keys, plastic housing. It was -- the entire thing could be removed from the wall and replaced.

Q. And that's what you replaced during the 18-month period?

A. Yes.

Q. All right. Were there any other

R. SHAH - HIGHLY CONFIDENTIAL

components that you modified for the field-test unit that was in your house other than the control board on the thermostat?

A. And, again, I think the best of my recollection in a system like this, which was under development, we probably replaced the controls in either the indoor or the outdoor unit -- the software on the controls primarily -- in case there was an improvement needed, and I cannot recollect exactly what or when we did what.

Q. All right. And in that case you would just replace the control boards on those --

A. Yes.

Q. -- devices? All right. Who installed the field-test unit in your house?

A. The equipment installations were done by professional contractors. So like the outdoor unit, the indoor unit, when it did change, it would be replaced by a installer because the refrigerant lines and everything else had to be done professionally. As far as just replacing, snapping in this control in and out, I could do it myself.

R. SHAH - HIGHLY CONFIDENTIAL

Q. So when the system was initially installed in 2002, did the installer install all the components?

A. Well, let me redescribe this. I cannot recollect exactly when the physical equipment was installed because the controls are the primary things that upgraded them to the new functionality. So it's when the whole equipment is installed is when we need a contractor, a physical installation. Controls updates would not have required a professional installer and could have been done by someone like myself or one of my team members.

Q. Right. And I'm trying to understand, when you first had the system installed -- and maybe I misunderstood what you said. When you first had the system installed in 2002 in your house, did you have a new outdoor unit installed?

A. It's difficult for me to remember. I want to reclarify that my house and my equipment has been over many, many years, even to this day, changing in the -- in the updates of both the equipment and the controls. So I can't put my finger on whether in 2002 we specifically changed

R. SHAH - HIGHLY CONFIDENTIAL

the physical outdoor unit or we updated its control to do the new functions. I just don't remember.

Q. Is it possible that it could have been an older unit and all you did was update the controls?

A. It is possible.

Q. Okay. So the eXcalibur system, which today matured into the Infinity system, had the ability to use existing outdoor units in simply switching out the controls; is that what you're saying?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: That's not exactly what I'm saying. What I'm saying is that, for test purposes, we could use existing outdoor units or indoor units depending on their nature and update them with the newer control scheme to achieve this representative functionality that we were trying to test.

BY MR. MORICO:

Q. Okay. Let me ask you a different question. So in 2002 when you field tested the eXcalibur system in your home, you can't recall

whether you replaced all of the equipment or whether you just upgraded existing equipment; is that fair?

A. Yes, I cannot say for sure.

Q. All right. When -- but at the very least you installed a new control in the outdoor unit, a new control in the indoor unit and a new thermostat; is that fair?

A. I would say an updated control in each of the units, yes.

Q. And a new thermostat, correct?

A. And a new thermostat.

Q. All right. And who did that installation of those components when the first field-test unit was installed in your house for eXcalibur in 2002?

MR. MCELDOWNEY: Objection. Objection to form.

THE WITNESS: That is, again, a little bit difficult for me to remember exactly what happened, but, as I was explaining, if it -- assuming it was not a whole new unit, it would have been done by a team member who did not need a professional installer.

BY MR. MORICO:

Q. So only if you installed a new outdoor unit or new indoor unit would a professional installer have been involved; is that your testimony?

A. Let me explain it this way. The need for the professional installer is to do what they always did, which is to work with the refrigerant system, which was -- we needed a professional for that. What we didn't need a professional for was to work with the controls because they wouldn't even know what to do with it. So that's where the team members come in. So it gets to be a mix of the two. If equipment is installed, then a professional comes in and installs it, but only the refrigerant side and things like that that they typically do.

Q. Did your house already have the five or six zones before the eXcalibur field test in 2002?

A. Yes.

Q. And did it have the two-zone control at that time?

A. I had a what was known as the Comfort

Zone II, which -- which had the capability to do up to eight zones.

Q. Was that with one control?

A. Let me make sure I understand your question. What do you mean by "one control"?

Q. The ComfortNet II could go up to eight zones. Was that each zone control of the ComfortNet II could do up to eight zones?

A. The Comfort Zone II had a wall control that could control the entire system in that sense -- and all the zones in the system, and it had a zone board that would be attached to the various zone sensors as well as to the equipment and basically interface with the equipment in the traditional way, which is the indiscrete signals.

Q. The Comfort Zone II, is that a thermostat or is that some other device?

A. Well, it was a package. There was a -- there was a wall control as part of the package, a zone board that was a part of the package. A zone board functioned as a damper control as well as an equipment interface, and it also had inputs for the sensors for the zones. And the wall control basically, you know,

controlled all the zones or allowed you to set all the zones to control.

Q. And did that remain after you did the field test of the eXcalibur? Did you keep the Comfort Zone II wall control in place?

A. No.

Q. That was switched out with the new thermostat?

A. Yes.

Q. Okay. Who else had a field test unit on the team other than yourself for the eXcalibur?

A. We have a list of team -- I mean a list of field tests, and I'm not sure I can recollect exactly who on the team was on that list at that time.

Q. Did Jerry Ryan have such a system?

A. Best of my recollection, yes.

Q. And was that installed approximately the same time frame, 2002?

A. Approximately, yes.

Q. How about Mr. Vanostrand?

A. Best of my recollection, no.

Q. Mr. Puranen?

A. I believe, yes.
Q. Okay. What about Mr. Kiningham?
A. I would have to refer back to the whole list. I'm not sure if I remember exactly who got what when.
Q. So is there a list that actually identifies who had the field test units?
A. We ran the field tests with the list, yes.
Q. Okay. And were all of the people who had the field test employees of Carrier?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I can't say -- the answer is no.
BY MR. MORICO:
Q. Who outside of Carrier had a field test unit installed? And what I'm referring to is a field test unit of a HVAC system made in accordance with the eXcalibur project.
MR. MCELDOWNEY: Objection to form.
THE WITNESS: The -- I would again say that we had a list of these field trial participants, and so there was a list of them.
BY MR. MORICO:

Q. And did those individuals sign confidentiality agreements with Carrier?
A. Yes, to the best of my recollection, that was our normal practice.
Q. Were those folks spread out throughout the country or were they in a particular region?
A. They were spread out in the country.
Q. And how does Carrier identify those people?
A. I'm not quite sure if I understand that.
Q. So how do you identify individuals to field test your products, if they don't work for Carrier?
A. There was -- there was several criteria. One of them, like you said, we wanted to get geographical dispersion, we wanted to get certain kinds of equipment in the home already so that it could be upgraded as opposed to fully installed. So that was another criteria. And then we selected from the people that would be available in general from our channelled partners as well as employees.
Q. Okay.

MR. MORICO: We've been going for almost an hour and a half. Do you want to take a short break?
MR. MCELDOWNEY: Yeah, that would be good.
VIDEO SPECIALIST: This is the end of videotape number 1. Off the record at 10:25 a.m.
(Proceedings recessed.)
VIDEO SPECIALIST: This is the beginning of tape number 2. Back on the record at 10:42 a.m.
BY MR. MORICO:
Q. Mr. Shah, before we broke we were talking about the field-test unit at your house. I want to continue our discussion on that for a moment.
The outdoor unit in that field test that you had at your house in roughly 2002, what was the SEER rating on that?
A. That would be difficult for me to remember, but, if I were to guess, probably in that time frame 16. I wouldn't be sure of it.
Q. Would it be fair to say it was a high-efficiency unit?

A. I would --
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I would say it was a higher efficiency than the basic unit, yes.
BY MR. MORICO:
Q. All right. Is it of an efficiency that the industry would consider high efficiency?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I'm not sure the terminology necessarily is generically applied that way, but, as I was saying, it was a higher efficiency than the basic units available in that time frame.
BY MR. MORICO:
Q. All right. Was the indoor unit a high-efficiency unit?
MR. MCELDOWNEY: Same objection.
THE WITNESS: The indoor unit in this case was not a gas furnace, and so it did not actually have an efficiency rating by itself. It was rated as a system with the outdoor unit for cooling and heat pump efficiency, not gas obviously.
BY MR. MORICO:

Q. So what -- it was an electric heater?
A. Yes. It's a fan coil unit, what is known -- and different companies call it differently, but Carrier calls it fan coil unit, and it has a coil and a fan to run the air through the ducts and optional electric heater to supplement the heat pump and heating.
Q. I see. Okay. The outdoor unit and the indoor unit, did they both have their own controls prior to their modification for purposes of this field test?
A. Depends on how you define a control.
Q. Let me -- let me ask it differently. When you installed the field-test unit for the unit or system that was in your house in 2002, did you install a new control for the outdoor unit?
A. To the best of my recollection, we would have updated a control, which -- I don't remember whether we just put a brand-new control or exchanged it with, you know, one that we already had. So I'm not sure if that's your question.
Q. Well, that was, I guess, my first

question, whether you switched out the control with a new control.
A. So, again, in those days -- so this has been a long time -- the way you could change software on the control, such as in the outdoor unit, the easiest way to do it in a home, in a field site, would be to just swap the control with one that has the new software in it that was uploaded in our lab. It is technically possible to even update certain controls right in the field site. My best recollection is that we would have probably just exchanged boards out, but I can't be sure because we could have done it either way.
Q. Okay. And if you exchange boards, you would be exchanging the control board or the motherboard?
A. There was -- the outdoor unit has just one control, and which is, of course, wired to various parts of the outdoor unit it controls, you know, whether the compressor or other items. So you basically take the board, remove all the wires, mounting, unmount it, mount the new one, put back all the wires.

Q. All right. Were there any other modifications to the outdoor unit of your home when you installed the field-test unit in 2002 other than what you just mentioned?
A. To the best of my recollection, no.
Q. All right. What modifications, if any, did you make to the indoor unit in connection with the installation of the field test unit that you did in 2002?
A. I think it is a similar -- the unit itself remained, as is the refrigerant lines and coil and everything, we just changed and rewired a new control.
Q. All right. And then you installed a new thermostat, correct?
A. Yes.
Q. What other modifications or changes did you make to the system that existed in your house in 2002 in connection with the field-test unit that was installed in your house?
A. To the best of my recollection, I think that was it.
Q. And did the thermostat, the new thermostat that was installed, did that go in the

same place as your old thermostat?
A. Yes.
Q. All right. And was there four wires that led from the thermostat to the indoor control?
A. Yes.
Q. All right. So you didn't have some other wiring system that had more than four wires that needed to be replaced?
A. Oh. When -- earlier on, several years before this, in other field tests, we -- we had a need for more wires, and so -- in the wall behind my thermostat there are more wires. There are, I don't know, at least 10 or 11 wires that we had to run previously that I didn't need to use anymore.
Q. And those were in connection with earlier systems you had installed in your house?
A. Yes. Yes.
Q. All right. So did you -- when you hooked up the thermostat in connection with the field test of your eXcalibur system in 2002, did you remove those multiple wires and just install a brand-new, 4-wire connection between the

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thermostat or did you take the existing multiwire wire that existed and connect it to the thermostat?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: Best of my recollection, we would have used four of the multiple wires that we had already in there. There's no reason why we would not use them. But I can't remember us actually running another set of four wires and -- well, that would make it more wires, and we didn't need more wires.

BY MR. MORICO:

Q. Okay. So you used the existing ten wires that were there -- you used four of the existing ten wires that were there.

A. Yes. Yes.

Q. All right. And which wires did you connect to the thermostat?

A. Which?

Q. Based on letters, colors --

A. Oh, colors. We generally would use the -- the four wires would be the preferred colors, not required, but preferred colors were the yellow, green, red and white.

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Q. Can you use -- can you have used any four of the wires of the ten?

A. There is no reason the colors make any difference as long as you put the right color at the right spot on both sides of the wire.

Q. All right.

A. But we just use colors to help keep that straight, that's all.

Q. I see. Okay. So in this case you used the yellow, the green, the red and the white?

A. Yes.

Q. And the yellow and the green were used as the communicating lines; is that fair?

A. That's correct.

Q. And the red and the white were the power lines?

A. Yes.

Q. All right. And those four wires were connected to the control on the indoor unit; is that fair?

A. Yes.

Q. All right. Now was there any sort of wired connection between the indoor unit and the

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outdoor unit?

A. The same four wires -- same four terminations would basically be connected to the same four terminals on the outer unit.

Q. The yellow, the green, the red and the white?

A. Yes.

Q. What did the red and the white do? Were they needed?

A. The -- in those days the outdoor unit control was also powered off the indoor unit transformer -- 24 volts -- so the source of the red and white carry the power, 24 volts power, from the indoor unit to the outdoor unit --

Q. I see.

A. -- as it did to the thermostat.

Q. Okay. And the 24 volts that was going to the outdoor unit, that was simply for powering the control, not obviously for running the system itself, correct?

A. No, let me -- well, it was to provide 24 volts power to the outdoor unit and whatever functions it had that needed 24 volts power, including the controller.

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Q. I see.

A. But there was a contact or reversing valve elements in the outdoor unit that powered off 24 volts that would also use the same power.

Q. I see. All right. Were there any other lines connected within the system?

MR. MCELDOWNEY: Objection, form.

BY MR. MORICO:

Q. Either communicating or power lines other than from the thermostat to the indoor unit and from the indoor unit to the outdoor unit?

MR. MCELDOWNEY: Same objection.

THE WITNESS: Let me make sure I clarify this. These were the what we call the low-voltage wires, and best of my recollection that was it, but obviously we would also have 230 volts power going through the house powering the outdoor unit and the indoor unit. That wasn't part of this.

BY MR. MORICO:

Q. The -- the zone control, was that connected using low-voltage wires?

A. The zone control works off the same four wires, it's on the same bus, so, yes.

was somewhat of a team effort based on the nature of information we had to transmit on the protocol or, rather, we didn't have to transmit on the protocol, so we didn't have -- need the elaborate original version.

Q. And who did you get that protocol from, if anyone, on the commercial side of the business?

A. As I said, it was in Carrier, it was a standard, it was an internal standard, the protocol. The language and the formatting of the information was a documented standard.

Q. So you just had access to that?

A. Yes.

Q. You didn't need to talk to anybody to get it; you knew where to find it?

A. No.

Q. No, meaning --

A. We did not have to have anybody explain it to us.

Q. Or provide it to you.

A. As Carrier employees, as Carrier teams, we had access to it.

Q. That -- okay, that's kind of -- that's

pretty much what I was getting at.

Was there any engineer from the commercial side of the business who worked on the Infinity project?

A. Not to my knowledge.

Q. Earlier you talked about a precursor to eXcalibur being a project called System Integration. Do you recall that?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: What I said was that, in the course of these projects, names are applied at various times, which are merely internal taglines for internal communications, and what was System Integration and basically was the same project, it just -- someone came up with a -- with a more catchy name.

BY MR. MORICO:

Q. Okay. Did System Integration have an auto-configuration feature?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: The so-called System Integration project had auto-configuration and communication as kind of elements of what we were trying to accomplish with it, yes.

BY MR. MORICO:

Q. And was the communication used -- did it use the CCN protocol?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: So let me -- I think your statement about that it uses CCN protocol, let me elaborate on the point. Where this thing started off was the need to communicate serially among these HVAC equipment pieces and to transfer information to help configure the system and to operate it optimally. That was how the concept of System Integration as a project began.

In the course of the project -- and I cannot pinpoint the date at which the protocol was decided on; it was one of the implementation details that we went through -- and whether the eXcalibur name arrived before the CCN protocol or the other, I can't recall the precise sequence of events.

Q. Who is the one who identified the need to communicate serially among the HVAC equipment pieces so that the system could be configured?

A. I think I have to take the primary responsibility for doing that, yes.

Q. Okay. And how did you come up with that need?

A. In the previous several years, in Carrier at least, I was very much involved in building newer functions and newer pieces of equipment that needed to be integrated into systems delivering those functions. Examples being multistage or two-stage gas furnaces and two-stage air conditioners and two-stage heat pumps and furnaces and fan coils with variable-speed fan motors, and along with it we built new functions like humidity control, dehumidification, and on and on.

The problem that we -- while these functions were doing better things for our customers, what we also learned was that they resulted in more complexity for our systems, and, in particular, for our installers. And the complexity came in the form of too many wires because every function that we added needed a wire, and too many setups for all the different configurations of equipment, you know, number of stages, the type of equipment, everything, all that, that added to the complexity of installing

and setting up -- properly setting up a system and caused some problems when it wasn't properly set up in performance.

So we were -- I was -- as we were going on adding new and better functions, we were also getting the feedback of the complexity, and so the need arose out of trying to address that.

Q. So was it the installers that communicated to you that they were having too much difficulty installing these complex systems?

A. Yes.

Q. And how is that feedback communicated to you? Was that through meetings you had with installers or some other means?

A. Certainly meetings with installers on how they were installing and effectively delivering these new functions was one place where we got the feedback. The other place was, when we had problems and when systems didn't get installed correctly and didn't work right, we always get either warranty claim or a problem report from the site, and we would go and, you know, try to determine what the root cause of it is, and often it led us to believe or understand

that the complexity was part of the reason why the systems didn't always work.

Q. Okay. And so they identified the problem of having this difficulty of installing these complex systems, and who was involved in considering ways of solving that problem?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: As I was saying earlier, I was certainly at the center of the problem definition because we were sort of creating it by adding complexity by adding new functions and features, and we had plans to do even more. And we were clearly seeing this feedback as a reason to -- to figure out how to do this better, how to, not only do everything we had better and easier, but also to lay the foundation for more functions, better performance that also we had, you know, envisioned in the future.

So but I would say that I was probably one of the prime drivers towards translating that need -- establishing the need as well as translating it into a path of solving it.

BY MR. MORICO:

Q. And what -- what alternatives or

options did you consider?

A. Uhm, in the broadest sense, that was the -- the primary option that we -- that I considered because the reason is that we wanted to reduce the number of wires, but we wanted to add more functions, and we couldn't have the discrete one-for-one wire added for every function.

And the idea that came up was that, if you have serial communications on the same pair of wires or whatever number of wires, but you would need just that many wires for as many functions as you want.

Q. Right.

A. And so that was the kind of leap beyond the need to the path to solve the need.

Q. Okay. And serial communications were known at that time, correct?

A. Serial communications, as a general way of communicating, yes.

Q. Okay. Did Chris Peel play any role in identifying the problem or the need for less complex systems?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: In my opinion and generally, no.

BY MR. MORICO:

Q. Did anybody else on the team play a role in that?

A. The -- the identification of the problem, meaning that our systems were getting complex and installers were having difficulty delivering the full functionality and sometimes creating problems, came from, as we said, many sources -- feedback through -- through our, you know, our product support people, various people, and directly to me as well.

So the need or the identification of the problem, you know, came directly from, like we said, from the installers themselves through various channels, which included -- did include some marketing people at that time.

Q. So what marketing people would have been included?

A. This need thing was, as I said, was over several years prior to the conception of the solution. So there is not just one person.

Q. Can you identify who in marketing

would have been contributors to that?
A. I cannot specifically recall. This is kind of in the late '90s, we're talking about, from '95 to '99 or something.
Q. But you would not include Chris Peel in that?
A. No, Chris came on board onto this team a little bit later.
Q. How about Gary Clark?
A. Gary Clark was certainly in the organization at that time, I can say that. I'm not specifically aware of whether he was in the chain of reporting the need. He might have been. I don't know.
Q. Okay. The notion of self-configuration, when was that conceived in connection with the development of the Infinity project?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: As I was explaining before, the need from the ability to install these complex systems properly was in the form of the number of wires, the number of different wiring diagrams that are needed for different

equipment configurations, and also the need to set up the system per each configuration, and all of those contribute to the complexity and the problems and the need.
So I'm not sure I can split the date and time between the two, but the serial communication's need to communicate more information over the same wires as well as the need to self-configure kind of emerged about from the same basic problem-solving need. So about the same time.
BY MR. MORICO:
Q. And when was that?
A. This was in the, I think, somewhere in the '99 -- 1999-2000 -- the kind of time frame we've said earlier where the project was conceived, and that was about that time.
Q. Okay. And who is the person who conceived of that idea?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I think in the very basic form at -- at that -- at that level it was me.
BY MR. MORICO:

Q. Okay. What role, if any, did Jerry Ryan play in that?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: As we put some flesh on the very broad concept and tried to define it in some depth and as terms of the ideas, Jerry Ryan was an important role-player in making that idea more complete in its many different aspects. So starting with the very simple statement of what we said to the level of depth we needed to make it complete, he played an important role.
BY MR. MORICO:
Q. Okay. So conception was in '99-2000, and the first field-installed unit was in 2002; is that fair?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: Yes. Again, my memory is not perfect, but in reasonably approximate terms that's about right.
BY MR. MORICO:
Q. Okay. And so what happened from '99-2000 when the idea came to you to use serial communication over 2-wire bus to auto-configure to the time when you had your first field units

installed?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: We did a lot of work. That was what was happening between where we started and where we reduced this whole thing to practice. There was a lot of work done by the whole team.
BY MR. MORICO:
Q. In your mind when was the first reduction to practice --
MR. MCELDOWNEY: Objection to form.
BY MR. MORICO:
Q. Strike that. I'm asking you, as the corporate representative, when was the first reduction to practice?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: Depending on the definition of what we mean by "reduction to practice," and I guess that can be interpreted differently, if I would call it a fully, communicating self-configuring system, it was probably in the time frame in and around where we were ready to actually get towards these field trials and we were running some lab systems that

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privileged. I think that's what he's --
MR. MCELDOWNEY: Got it.
THE WITNESS: Yeah. Okay. So as of this year, which is the kind of tenth year, I think we've sold pretty much close to one million systems in about ten years. So it started the first year obviously was less, then it grew from there. And so an average of about a hundred thousand premium systems, which is what Infinity is, were sold every year.
BY MR. MORICO:
Q. How does that compare to the total number of HVAC systems that Carrier has sold in that same ten-year period?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: The way I would roughly state it is it's on the order of, I would say, somewhere between 10 and 15% of the total.
BY MR. MORICO:
Q. Okay. And what percentage of the total high-efficiency systems does the Infinity system represent?
MR. MCELDOWNEY: Objection to form.
BY MR. MORICO:

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Q. For Carrier.
A. Now, yeah, you're going to make a mathematician or an accountant out of me, and I don't have all those numbers in my head, but it was a much higher percent obviously than the 15% I said. A much higher segment of the high-end, premium, high-efficiency equipment went with an Infinity control on it.
Q. Has the high efficiency percent of Carrier systems sold over the ten-year period changed at all?
MR. MCELDOWNEY: Objection to form.
BY MR. MORICO:
Q. Let me ask you this. In 2004, when the Infinity system was first sold, what percentage of Carrier sales were high-efficiency systems in that year?
A. I don't know the numbers off the top of my head.
Q. Do you have a general idea?
A. All I can generally say is that the numbers grew from where they were before the launch of Infinity, and as a percent, you know, of the total, as well as, you know, the actual

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numbers, but I don't know the exact numbers.
Q. When you say the numbers grew, do you mean the percentage of high-efficiency units grew over the ten-year period since the introduction of the Infinity system or are you saying the absolute numbers of systems sold increased during that period of time?
A. I think I'm out of my league on numeric sales numbers in terms of being able to give you numbers or percentages.
Q. So as you sit here today, you can't tell me whether there are more high-efficiency units sold as a percentage of Carrier's business today than there were back in 2004 when the Infinity system was introduced?
MR. MCELDOWNEY: Objection.
BY MR. MORICO:
Q. Is that fair?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I cannot give you the numbers, yes, that is correct.
BY MR. MORICO:
Q. All right. So the fact that -- so whether the high-efficiency market for Carrier

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grew over those ten years or not, that's not the metric or the measure that you're using when you say the Infinity system was a commercial success. Fair?
MR. MCELDOWNEY: Objection to form.
THE WITNESS: I'm not sure I agree -- say that again.
BY MR. MORICO:
Q. Well, you don't know whether Carrier sold more high-efficiency units today than they did as a percentage of their business back in 2004, correct?
MR. MCELDOWNEY: Same objection.
THE WITNESS: I'm saying here I do not have the numbers off the top of my head.
BY MR. MORICO:
Q. Okay. Let me -- let me slice this a different way. So when you're saying the Infinity system was a commercial success, is that because you're saying today, in 2013, Carrier has sold more Infinity systems today than it did back in 2004 when it first launched the Infinity system?
A. Certainly that is true. That is part

of it.

Q. Okay. Would you agree with me, is one of the factors, if in fact the sales were successful, would one of the factors be that it was a high-efficiency or a premium model?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: So I'm -- I think I can answer this way. Take our premium, high-efficiency gas furnaces that were -- became Infinity-compatible in 2004. They could also be installed with regular thermostats. That was a choice. And the regular thermostats were -- are -- generally cheaper than an Infinity wall control. And you could run the furnace with that, so our customers had a choice.

We found -- and, again, I don't have the numbers off the top of my head; I didn't come prepared with a whole bunch of financials -- but we've called it a very high percentage of the high-end furnaces, even though they could be installed with regular noncommunicating thermostats, are actually installed with Infinity controls.

BY MR. MORICO:

Q. So let me ask you this. An Infinity communicating indoor unit, can that operate with a non-Infinity thermostat?

A. The gas -- again, there are types of indoor units. The gas furnaces that we have can operate with a non-Infinity thermostat as a choice of the customer.

Q. How about the electric furnaces?

A. Right. The fan coils we have different models. There is the Infinity-compatible model that is not going to function with a non-Infinity thermostat, and then we have a non-Infinity type model. So that we have two different models in that case.

Q. Okay. And so do you need the Infinity model to operate with the Infinity controller?

A. Yes.

Q. I see. But for the gas furnace you don't.

A. No --

Q. The gas furnace can be used either with an Infinity-controlled thermostat or a non-Infinity-controlled thermostat?

A. Yes. You need the Infinity gas

furnace to work with an Infinity control, but you don't need the Infinity control to work with the Infinity gas furnace; you can use a regular thermostat.

Q. Okay.

MR. MORICO: Take maybe a five-minute break.

MR. MCELDOWNEY: Sure.

MR. MORICO: And then maybe go for another 40 minutes or so and call it a day.

VIDEO SPECIALIST: Off the record at 5:13 p.m.

(Proceedings recessed.)

VIDEO SPECIALIST: This is the beginning of tape number 5. Back on the record at 5:24 p.m.

(Exhibit No. 11 marked for identification.)

BY MR. MORICO:

Q. So, Mr. Shah, the court reporter has handed you what's been marked as Shah Exhibit 11, which appears to be a power deck, PowerPoint deck, excuse me, entitled Project eXcalibur. It goes from Bates CARR-GG10161091 through 161. Do

you recognize this document?

A. It looks familiar.

Q. And the date of this document is March 10, 2004. Do you see that on the front?

A. Yes.

Q. And it lists you there with two other individuals. Did you prepare this PowerPoint deck, which is Exhibit 11, or at least have a hand in its preparation?

A. Yes.

Q. All right. So if you can turn to -- and I'm going to refer to just the last three digits -- page 106 of this document. Do you see there is a PowerPoint there and then there is a couple of notes?

A. Yes.

Q. The first note says, the heart of the system is the Infinity control. Do you see that?

A. Yes.

Q. If the Infinity control is the heart of the system, is there a brains of the system or would that also be the Infinity control?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: I think this was

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ACKNOWLEDGMENT OF DEPONENT

I, RAJENDRA SHAH, do hereby acknowledge that I have read and examined the foregoing testimony and that the same is a true, correct and complete transcription of the testimony given by me, with the exception of the noted corrections, if any, appearing on the attached errata page.

_____ _____
DATE RAJENDRA SHAH

Subscribed and sworn to before me this _____ day of _____, 20_____.

_____ (Notary Public)

My Commission expires: _____

R. SHAH - HIGHLY CONFIDENTIAL
ERRATA

NAME OF CASE: Carrier Corporation v. Goodman Global
DATE OF DEPOSITION: August 27, 2013
INSERT REASON FOR CHANGE:

1. To clarify the record.
2. To conform to the facts.
3. To correct a transcription error.

Page _____ Line _____ Reason _____
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Page _____ Line _____ Reason _____
From _____ to _____

_____
RAJENDRA SHAH

Subscribed and sworn to before me this _____ day of _____ 20 __.

_____ (Notary Public)

My Commission expires: _____.

R. SHAH - HIGHLY CONFIDENTIAL
CERTIFICATE

I, LINDA S. KINKADE, Registered Diplomate Reporter, Certified Realtime Reporter, Registered Merit Reporter, Certified Shorthand Reporter, and Notary Public, do hereby certify that prior to the commencement of examination the deponent herein was duly sworn by me to testify truthfully under penalty of perjury.

I FURTHER CERTIFY that the foregoing is a true and accurate transcript of the proceedings as reported by me stenographically to the best of my ability.

I FURTHER CERTIFY that I am neither counsel for nor related to nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 29th day of August 2013.

My commission expires: July 31, 2017

_____
LINDA S. KINKADE
NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

CARRIER CORPORATION,	•	Case No.
Plaintiff,	•	12-930-SLR
v.	•	
GOODMAN GLOBAL, INC., GOODMAN	•	
MANUFACTURING COMPANY, L.P.,	•	
GOODMAN GLOBAL HOLDINGS, INC.,	•	
GOODMAN DISTRIBUTION, INC.,	•	
and GOODMAN SALES COMPANY,	•	
Defendants.	•	
	•	
And Related Counterclaim	•	

H I G H L Y C O N F I D E N T I A L

VIDEOTAPED DEPOSITION OF 30(b)(6) DESIGNEE

RAJENDRA SHAH

Arlington, Virginia

August 28, 2013

8:38 a.m.

Job 65162

Reported by: Linda S. Kinkade, RDR, CRR, RMR, CSR

R. SHAH

that's a drawback of the system?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: Given the technology at the time, the ability or lack thereof to update software in a field unit as it was designed in the early 2000's, yes, that is an opportunity for improvement given technological advances in the last decade.

BY MR. MORICO:

Q. If I were to buy a brand-new system today, in 2013, and install it in my house, and you had developed a new AC unit three or four years down the road, would the system I buy today be able to operate with that new technology or would it also have to have a software update in the control of the thermostat?

A. I would -- I would not say for sure, but let me just say that the new -- one of the advances we did along with the touchscreen and the new Infinity system or system control introduced last year is the ability to upgrade software in the field.

So, to an extent -- and I can't predict the future -- to the extent that software

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upgrades can accommodate an entirely new piece of equipment in the future, a person can -- a system can be updated just using the software update functionality.

Q. And how is that done? Does somebody actually have to go into the thermostatic control and download the updated software?

A. I'm looking at now very much our latest and future activities, so this is obviously confidential, but what we -- the first version of this latest device you could upload software using a USB port that was built into the thermostat control, that is built into the thermostat control, so you download the software on a USB from our website and then upload it on the thermostat. However, realizing the technologies are advancing in many aspects and we are -- we need to keep up with it, our latest variation of that, that we're coming up with, will allow you to, not even need a USB port, but because of its built-in Internet connectivity in the thermostat itself, you can download software online and the user can simply say, I want the new software.

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Q. All right. Is there any implementation where the software would actually be loaded in the control of the new AC unit, for example, and through the bus get downloaded to the thermostatic control or otherwise remain resident in the AC unit and operate off of its own software?

A. Are you saying --

MR. MCELDOWNEY: Objection to form.

THE WITNESS: Yeah. Are you saying that this is -- can you rephrase the question?

BY MR. MORICO:

Q. Sure. Is there any implementation of the Infinity where the -- the new software for the new unit, for example, this AC unit we've been talking about, is embedded in the control of the AC unit and then communicated to the thermostatic control and downloaded that way or remains resident in the AC control and it just gets accessed through the AC control itself?

MR. MCELDOWNEY: Same objection.

THE WITNESS: Best I understand your question, in the current implementation of our system, we're still following the architecture

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that we've talked about. The system control functionality does not reside in any of the control and isn't available in them. It is available in the system control/thermostat, and that's it.

BY MR. MORICO:

Q. Okay. So the only way to get that updated software for that new equipment is to update the software and the thermostat?

A. As of now in our current implementation, that is true.

Q. Is that changing at any time in the future?

A. I can't predict the future.

Q. All right. But there's no current plans to change.

A. No.

Q. All right. In the Infinity system do any of the units other than the thermostat control any other unit?

MR. MCELDOWNEY: Objection, form.

THE WITNESS: I think we'll have to have the definition of the word "control" verified. From the communicating bus point of

view, any communicating unit does not control any other communicating unit. However, as we have said earlier, there are noncommunicating units that get relayed control outputs coming from another one of the units, like a furnace could have an output controlling its noncommunicating single-stage air conditioner on command from the system control.

BY MR. MORICO:

Q. And is that -- the noncommunicating units, are they connected through the bus?

A. No. By definition, they are noncommunicating.

MR. MCELDOWNEY: I'm going to take this opportunity to mark the transcript highly confidential.

(Exhibit No. 14 marked for identification.)

BY MR. MORICO:

Q. Mr. Shah, you've been handed what's been marked as Shah Exhibit 14, which appears to be an email from you dated March 21st, 2003, so just shy of a year before the Infinity launch, and it talks about ABCD, RS485 bus wiring. The

subject is Re eXcalibur User Interface Spec, and then at the bottom in point 3 it says, FCC requirement/TV interface, and it says:

> There is always the possibility that some installations may have trouble. We have had pretty good luck over the last six years using Comfort Zone II systems communicating over an RS485 bus on regular thermostat wires with multi-drop capability.

Do you see that?

A. Yes.

Q. What is that referring to?

A. The Comfort Zone II system?

Q. Yes.

A. I think we went -- maybe we did talk about the Comfort Zone II earlier when we were talking about the field test in my home.

The Comfort Zone II system was a predecessor to the Infinity where the wall control communicated to an interface zone board through a communication protocol and the same hardware interface like RS485, and then the zone

board then had the discrete traditional equipment outputs and inputs going to the traditional equipment. So that is the Comfort Zone II system that is being referred to here.

Q. So it used a RS485 hardware. Did it use a 4-wire bus or some other bus?

A. It's been a long time... I believe so. Best of my recollection, yes.

Q. Did the interface zone board, was that a communicating --

MR. MCELDOWNEY: Objection to form.

BY MR. MORICO:

Q. -- unit?

A. The interface board communicated with the wall control.

Q. So was it a communicating unit, then?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: It was a board that communicated. It was not a piece of equipment such as a furnace or an air conditioner or a fan coil.

BY MR. MORICO:

Q. And what operations did it perform?

A. In the Comfort Zone II system --

Q. Correct.

A. -- the zone -- I think it was called the zone equipment interface, some name like that, and that board had discrete outputs for zone dampers, it had inputs for remote zone temperature sensors, and it had discrete outputs like a traditional thermostat for all the HVAC equipment. And it communicated with the thermostat or wall control, and then it converted those into the discrete inputs and outputs for the equipment.

Q. And so was the bus that connected the zone equipment interface to the wall thermostat a 4-wire bus?

A. I would not categorize that as a bus because a bus, by definition, is multiple entities all on the same bus. This was a one-on-one communication between the wall control and this zone equipment interface.

Q. Why does this document presumably you wrote say that the Comfort Zone II systems communicated over the RS485 bus?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: That's, I guess, a use

of the language -- yes, it was used, but it is not a bus in the sense that it has got multiple devices all communicating together.

BY MR. MORICO:

Q. But it's got two devices communicating together over 4-wire bus using an RS485 hardware; is that fair?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: Yes, I would say that it is a two devices -- one-on-one communication between the two devices over a 4-wire. To the best of my recollection it was four wires, yes.

BY MR. MORICO:

Q. Okay.

(Exhibit No. 15 marked for identification.)

BY MR. MORICO:

Q. I'm going to give you these two together.

(Exhibit No. 16 marked for identification.)

MR. MORICO: I anticipated you would be here, Anders.

MR. FJELLSTEDT: Appreciate it.

BY MR. MORICO:

Q. So I've handed you two documents. I've had them marked, one is 15, which is an email from Chad Johnson to a variety of folks, including yourself, dated May 2001, and it references an attached document, which I have as Exhibit 16, it's called IDEO Document.

IDEO, that was the outside consulting company that Carrier employed in connection with the eXcalibur Project, correct?

A. Yes.

MR. MCELDOWNEY: Objection to form.

BY MR. MORICO:

Q. All right. And is the Exhibit 16, which is attached to the email of May 3rd, 2001, a document that IDEO prepared?

A. This, of course, has been a long time, but if I read the email from Chad Johnson, it says, attached is my attempt at a working document for IDEO.

Q. I see. So this was a document prepared internally by Carrier for communication with IDEO in connection with the work it was performing on eXcalibur?

MR. MCELDOWNEY: Objection to form.

THE WITNESS: That appears to be the case.

BY MR. MORICO:

Q. Okay. At the bottom of page 16 under a section called Corporate Weaknesses, it says:

> Dealers/distributors have a strong influence on the purchase decision made by a consumer, and if they do not accept this program our expected sales growth in the program could suffer.

A. I'm sorry.

Q. First page of the document.

A. Oh.

Q. Sorry. The last sentence under Corporate Weaknesses is what I read.

A. Okay.

Q. Do you agree with that statement?

A. Which part of the statement?

Q. The dealers/distributors have a strong influence on the purchase decision made by a consumer, and if they do not accept this program the expected sales growth in the program could

suffer.

A. In general I would agree that the dealers/distributors have a strong influence on the purchase decision made by the consumer. And so, therefore, there is a possibility -- I mean, yes, their acceptance is important.

Q. All right. The program it's referring to, that's eXcalibur, correct?

A. Again, it's been a long time and the English is tough, but I'm reading this program so I would agree that it would be the eXcalibur program.

Q. Okay. And if you turn to the next page, it talks about issues and features, and it says, IDEO Feature Focus. Do you know what that is?

A. Not off the top of my head. I would have to read it.

Q. Okay.

A. Okay.

Q. So IDEO Feature Focus, was that something that IDEO was focusing on or was that something that Carrier had asked IDEO to focus on?

R. SHAH
ERRATA

NAME OF CASE: Carrier Corporation v. Goodman Global
DATE OF DEPOSITION: August 28, 2013
INSERT REASON FOR CHANGE:

1. To clarify the record.
2. To conform to the facts.
3. To correct a transcription error.

Page _____ Line _____ Reason _____
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Page _____ Line _____ Reason _____
From _____ to _____

_____
RAJENDRA SHAH

Subscribed and sworn to before me this _____ day of _____ 20 __.

_____ (Notary Public)
My Commission expires: _____.

R. SHAH
CERTIFICATE

I, LINDA S. KINKADE, Registered Diplomate Reporter, Certified Realtime Reporter, Registered Merit Reporter, Certified Shorthand Reporter, and Notary Public, do hereby certify that prior to the commencement of examination the deponent herein was duly sworn by me to testify truthfully under penalty of perjury.

I FURTHER CERTIFY that the foregoing is a true and accurate transcript of the proceedings as reported by me stenographically to the best of my ability.

I FURTHER CERTIFY that I am neither counsel for nor related to nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 30th day of August, 2013.

My commission expires: December 31, 2015

_____
NOTARY PUBLIC IN AND FOR
THE COMMONWEALTH OF VIRGINIA

EXHIBIT 26

REDACTED IN ITS ENTIRETY